

WHAT IS CLAIMED IS:

1. A method for preserving a catalyst comprising maintaining a phosphorus-molybdenum-vanadium catalyst containing phosphorus, molybdenum and vanadium retained in a reactor under a condition of a water content of 30 mg or less per 1 g of catalyst dry weight, before the start of the reaction or during the stop of the reaction.
2. The method for preserving a catalyst according to Claim 1, wherein a retaining temperature of said catalyst is 0 °C or higher and not higher than the calcination temperature in catalyst production.
3. The method for preserving a catalyst according to Claim 1, wherein a retaining temperature of said catalyst is 15 °C or higher and 150 °C or lower.
4. The method for preserving a catalyst according to Claim 1, wherein a water concentration in gas in said reactor is 1 vol% or less.
5. The method for preserving a catalyst according to Claim 1, wherein a water concentration in gas in said reactor is 0.5 vol% or less.
6. The method for preserving a catalyst according to Claim 1, wherein a retaining temperature of said catalyst is 0 °C or higher and not higher than the calcination temperature in catalyst production, and a water concentration in gas in said reactor is 1 vol% or less.
7. The method for preserving a catalyst according to Claim 1, wherein a retaining temperature of said catalyst is 15 °C or higher and 150 °C or lower, and a water concentration in gas in said reactor is 0.5 vol% or less.
8. The method for preserving a catalyst according to Claim 6,

wherein said temperature of the catalyst is retained 0 °C or higher and not higher than the calcination temperature in catalyst production, and the gas having a water concentration of 0.8 vol% or less and containing substantially no component lowering a catalytic performance is allowed to pass through in  
5 said reactor.

9. The method for preserving a catalyst according to Claim 8, wherein the gas to be passed through in the reactor is an inert gas or oxidizing gas.

10. The method for preserving a catalyst according to Claim 9,  
10 wherein the gas to be passed through in the reactor is air.

11. The method for preserving a catalyst according to Claim 7, wherein said temperature of the catalyst is retained 15 °C or higher and 150 °C or lower, and the gas having a water concentration of 0.5 vol% or less and containing substantially no component lowering a catalytic performance  
15 is allowed to pass through in said reactor.

12. The method for preserving a catalyst according to Claim 11, wherein the gas to be passed through in the reactor is an inert gas or oxidizing gas.

13. The method for preserving a catalyst according to Claim 12,  
20 wherein the gas to be passed through in the reactor is air.

14. The method for preserving a catalyst according to any one of Claims 1 to 13, wherein said phosphorus-molybdenum-vanadium catalyst is preserved in dark ambient.

15. The method for preserving a catalyst according to any one of  
25 Claims 1 to 13, wherein said phosphorus-molybdenum-vanadium catalyst is a catalyst used in producing methacrylic acid from methacrolein by catalytic

oxidation in a vapor phase.

16. The method for preserving a catalyst according to Claim 14, wherein said phosphorus-molybdenum-vanadium catalyst is a catalyst used in producing methacrylic acid from methacrolein by catalytic oxidation in a 5 vapor phase.

17. The method for preserving a catalyst according to Claim 15, wherein said phosphorus-molybdenum-vanadium catalyst is represented by the following formula (I):



10 wherein, P, Mo, V, Cu and O represent phosphorus, molybdenum, vanadium, copper and oxygen, respectively, X represents at least one element selected from the group consisting of antimony, bismuth, arsenic, germanium, zirconium, tellurium, silver, selenium, silicon, tungsten and boron, Y represents at least one element selected from the group consisting of iron, 15 zinc, chromium, magnesium, tantalum, cobalt, manganese, barium, gallium, cerium and lanthanum, and Z represents at least one element selected from the group consisting of potassium, rubidium and cesium. a, b, c, d, e, f, g and h represent atom ratio of each element, and when b=12, then, a=0.5 to 3, 20 c=0.01 to 3, d=0.01 to 2, e=0 to 3, f=0 to 3, g=0.01 to 3, and h represents atom ratio of oxygen necessary for satisfying atomic valence of each component.

18. The method for preserving a catalyst according to Claim 16, wherein said phosphorus-molybdenum-vanadium catalyst is represented by the following formula (I):



wherein, P, Mo, V, Cu and O represent phosphorus, molybdenum, vanadium,

copper and oxygen, respectively, X represents at least one element selected from the group consisting of antimony, bismuth, arsenic, germanium, zirconium, tellurium, silver, selenium, silicon, tungsten and boron, Y represents at least one element selected from the group consisting of iron,

5 zinc, chromium, magnesium, tantalum, cobalt, manganese, barium, gallium, cerium and lanthanum, and Z represents at least one element selected from the group consisting of potassium, rubidium and cesium. a, b, c, d, e, f, g and h represent atom ratio of each element, and when b=12, then, a=0.5 to 3,

10 c=0.01 to 3, d=0.01 to 2, e=0 to 3, f=0 to 3, g=0.01 to 3, and h represents atom ratio of oxygen necessary for satisfying atomic valence of each component.